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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/632,421  | 08/01/2003  | Andrew Sendonaris    | 020131              | 4368             |
| 23696   | 7590        | 05/23/2005           | EXAMINER            |                  |
| Qualcomm Incorporated<br>Patents Department<br>5775 Morehouse Drive<br>San Diego, CA 92121-1714 |             |                      | GARY, ERIKA A       |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2681                |                  |

DATE MAILED: 05/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/632,421             | SENDONARIS, ANDREW  |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Erika A. Gary          | 2681                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/6/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 6-8, 18, 21, 24, 26-30, 38, and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Applicant's submission of prior art, Noreen et al., US Patent Number 5,689,245 (hereinafter Noreen).

Regarding claims 1, 21, 29, and 38, Noreen discloses a method, device and wireless network infrastructure for determining a velocity of a wireless communication device in relation to a wireless network infrastructure; and determining one or more adjustments to the operation of the communication receiver based on the determined velocity of the wireless communication device [col. 14: lines 33-61].

Regarding claims 6, 26, 30, and 39, Noreen discloses estimating a frequency shift based on the velocity of the wireless communication device [col. 14: lines 39-49].

Regarding claims 7 and 27, Noreen discloses estimating the frequency shift is performed in the wireless communication device [col. 14: lines 39-49].

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Regarding claims 8 and 28, Noreen discloses estimating the frequency shift is performed in the wireless network infrastructure [col. 14: lines 39-49].

Regarding claims 18 and 24, Noreen discloses determining the velocity comprises receiving velocity information from a global positioning system receiver [col. 14: lines 33-1].

3. Claims 1-5, 9-11, 15-17, 20-23, 29, 31, 35-38, 40, and 44-47 are rejected under 35 U.S.C. 102(e) as being anticipated by Jin, US Patent Number 6,658,045 (hereinafter Jin).

Regarding claims 1, 21, 29, and 38, Jin discloses a method, device and wireless network infrastructure for determining a velocity of a wireless communication device in relation to a wireless network infrastructure; and determining one or more adjustments to the operation of the communication receiver based on the determined velocity of the wireless communication device [col. 2: line 64 – col. 3: line 15].

Regarding claims 2 and 22, Jin discloses determining the velocity of the wireless communication device and determining adjustments to the communication receiver are performed in the wireless communication device [col. 3: lines 10-15].

Regarding claims 3 and 23, Jin discloses determining the velocity of the wireless communication device and determining adjustments to the communication receiver are performed in the wireless network infrastructure [col. 3: lines 10-15].

Regarding claim 4, Jin discloses determining the velocity of the wireless communication device is performed in the wireless communication device, and

determining adjustments to the communication receiver are performed in the wireless network infrastructure [col. 3: lines 10-15].

Regarding claim 5, Jin discloses determining the velocity of the wireless communication device is performed in the wireless network infrastructure, and determining adjustments to the communication receiver are performed in the wireless communication device [col. 3: lines 10-15].

Regarding claims 9, 31, and 40, Jin discloses adjusting the communication receiver in accordance with the determined adjustments [col. 2: line 64 – col. 3: line 15].

Regarding claim 10, Jin discloses adjusting the communication receiver is performed in the wireless communication device [col. 3: lines 10-15].

Regarding claim 11, Jin discloses adjusting the communication receiver is performed in the wireless network infrastructure [col. 3: lines 10-15].

Regarding claims 15, 35, and 44, Jin discloses the determined adjustments to the communication receiver further comprises adjustments to a time tracking loop [col. 8: lines 25-40].

Regarding claims 16, 36, and 45, Jin discloses adjusting the time tracking loop further comprises estimating a loop filter coefficient for the tracking loop based on the velocity of the wireless communication device [col. 8: lines 25-40].

Regarding claims 17, 37, and 46, Jin discloses adjusting the time tracking loop further includes estimating a drift in the timing of the received signal based on the velocity of the wireless communication device [col. 8: lines 25-40].

Regarding claims 20 and 47, Jin discloses the wireless network infrastructure further comprises a base station [col. 3: lines 10-15].

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 19 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noreen.

Regarding claims 19 and 25, the Examiner takes Official Notice that it is well known in the art to determine the velocity of a communication device by receiving at least two location measurements of the device, wherein the measurements are made at different, known, times and determining the velocity based on the at least two location measurements and their respective measurement times. At the time of the invention, it would have been obvious to one of ordinary skill in the art to include this feature as the exact method for determining the velocity lacks criticality to the overall function of the invention, which is to adjust the receiver based on the velocity.

6. Claims 12-14, 32-34, and 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jin in view of Millward et al., US Patent Number 6,324,228 (hereinafter Millward).

Regarding claims 12-14, 32-34, and 41-43 Millward discloses adjusting the communication receiver comprises adjustments to a frequency tracking loop wherein adjusting the frequency tracking loop comprises estimating a frequency error or an initial frequency error for the tracking loop based on the velocity of the wireless communication device [col. 4: lines 1-33].

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Jin to include Millward. The motivation for this combination, as suggested by Millward, would have been to adjust the frequency to take into account Doppler effects and multipath fading which can be caused by the velocity of the device [col. 4: lines 27-33].

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Parr et al., US Patent Number 5,513,221, disclose Doppler bandwidth dependent estimation of a communications channel.

Gross et al., US Patent Number 6,675,013, disclose Doppler correction and path loss compensation for airborne cellular systems.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erika A. Gary whose telephone number is 571-272-

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7841. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on 571-272-3865. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EAG  
May 17, 2005

  
ERIKA A. GARTY  
PRIMARY EXAMINER